

WHAT IS CLAIMED IS:

1. A communication apparatus in which a communication channel and a control channel are exclusively assigned to a radio communication resource to be used, said apparatus comprising:

means for executing data transmission/reception using the communication channel;

means for executing a control procedure required for establishment of a radio link using the control channel;

means for monitoring a traffic of the communication channel; and

means for dynamically controlling an execution timing or execution time interval of the control procedure on the basis of the traffic detected by said monitoring means.

2. The apparatus according to claim 1, wherein said control procedure includes a procedure of transmitting a terminal search message for searching for a terminal in a communication zone and acquiring information necessary for connection, and

said control means dynamically controls a transmission timing or transmission time interval of the terminal search message on the basis of the traffic detected by said monitoring means.

3. The apparatus according to claim 2, wherein said control means inhibits periodical transmission of

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the terminal search message if the traffic detected by said monitoring means exceeds a predetermined value, and permits transmission of the terminal search message only when establishment of a radio link is requested by a user application.

4. The apparatus according to claim 1, wherein said control procedure includes a terminal search wait procedure for detecting a terminal search message transmitted from a remote terminal to search for a terminal and responding the message, and

said control means dynamically controls execution time interval of the terminal search wait procedure on the basis of the traffic detected by said monitoring means.

5. The apparatus according to claim 1, wherein said control procedure includes a connection establishment request wait procedure for detecting a connection establishment request message transmitted from a remote terminal, and

said control means dynamically controls execution time interval of the connection establishment request wait procedure on the basis of the traffic detected by said monitoring means.

6. The apparatus according to claim 1, wherein said control procedure executes one of a terminal search mode, a terminal search wait mode, and a connection establishment request wait mode, and

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8. The apparatus according to claim 7, wherein said user interface means sets one of a first mode of preferentially executing the data transmission/reception and a second mode of preferentially executing the control procedure, and

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means for dynamically controlling the execution timing or execution time interval of the transmission

processing of the terminal search message or the terminal search wait processing on the basis of a determination result of said determining means.

11. A control method for a communication apparatus in which a communication channel and a control channel are exclusively assigned to a radio communication resource to be used, said method comprising the steps of:

executing data transmission/reception using the communication channel and executing a control procedure required for establishment of a radio link using the control channel;

monitoring a traffic of the communication channel; and

dynamically controlling an execution timing or execution time interval of the control procedure on the basis of the traffic detected in said monitoring step.

12. The method according to claim 11, wherein said control procedure executes one of a terminal search mode, a terminal search wait mode, and a connection establishment request wait mode, and

said controlling step comprises dynamically controlling an execution timing or execution time interval of at least one of the terminal search mode, the terminal search wait mode, and the connection establishment request wait mode on the basis of the traffic detected in said monitoring step.

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15. A control method for a communication apparatus capable of being driven by a battery and simultaneously connecting to a plurality of remote terminals, said

method comprising the steps of:

detecting a residual capacity of the battery; and
dynamically controlling an execution timing or
execution time interval of transmission processing of
5 a terminal search message for searching for a remote
terminal or terminal search wait processing for
detecting the terminal search message and responding to
the message on the basis of a detection result in said
detecting step.

10 16. The method according to claim 15, further
comprising the steps of:

determining whether a current operating power
supply is the battery or an external power supply; and
dynamically controlling the execution timing or
15 execution time interval of the transmission processing
of the terminal search message or the terminal search
wait processing on the basis of a determination result
in said determining step.

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